

Cape fur seal rabies update

Lesley van Helden

After rabies was first detected in Cape fur seals in Cape Town in early June 2024, seals showing clinical signs suspicious for rabies were reported from several locations in the province and post-mortem samples were taken from these animals for testing. Retrospective testing of approximately 135 brain samples stored in formalin also took place at the University of Pretoria using immunohistochemical methods.

As of 31 August 2024, rabies was detected in a total of 24 individual seals along the coast between the mouth of the Groenrivier, in Namaqua National Park, and Plettenberg Bay (Fig. 1). Seventeen of these seals were confirmed rabies positive using fluorescent antibody testing, while an additional seven cases were detected from retrospective samples kept in formalin, using immunohistochemical methods. The earliest case

detected occurred in Cape Town in August 2022.

Of the 24 rabid seals, 19 were found dead or died shortly after being found. Five were euthanased due to suspicion of rabies.

Observed clinical signs varied greatly, including abnormal aggression (Fig. 2), vocalisation, repeated movements (Fig. 3), twitching, muscle tremors, paralysis and coma.

Sequencing of the rabies viruses found in seals shows the majority clustering closely together, with their nearest relatives being rabies viruses from wildlife in Namibia. These findings support the theory that rabies was introduced into a seal by a terrestrial wild animal, likely in Namibia, and has since been transmitted from seal to seal to become endemic in the population. The rabies

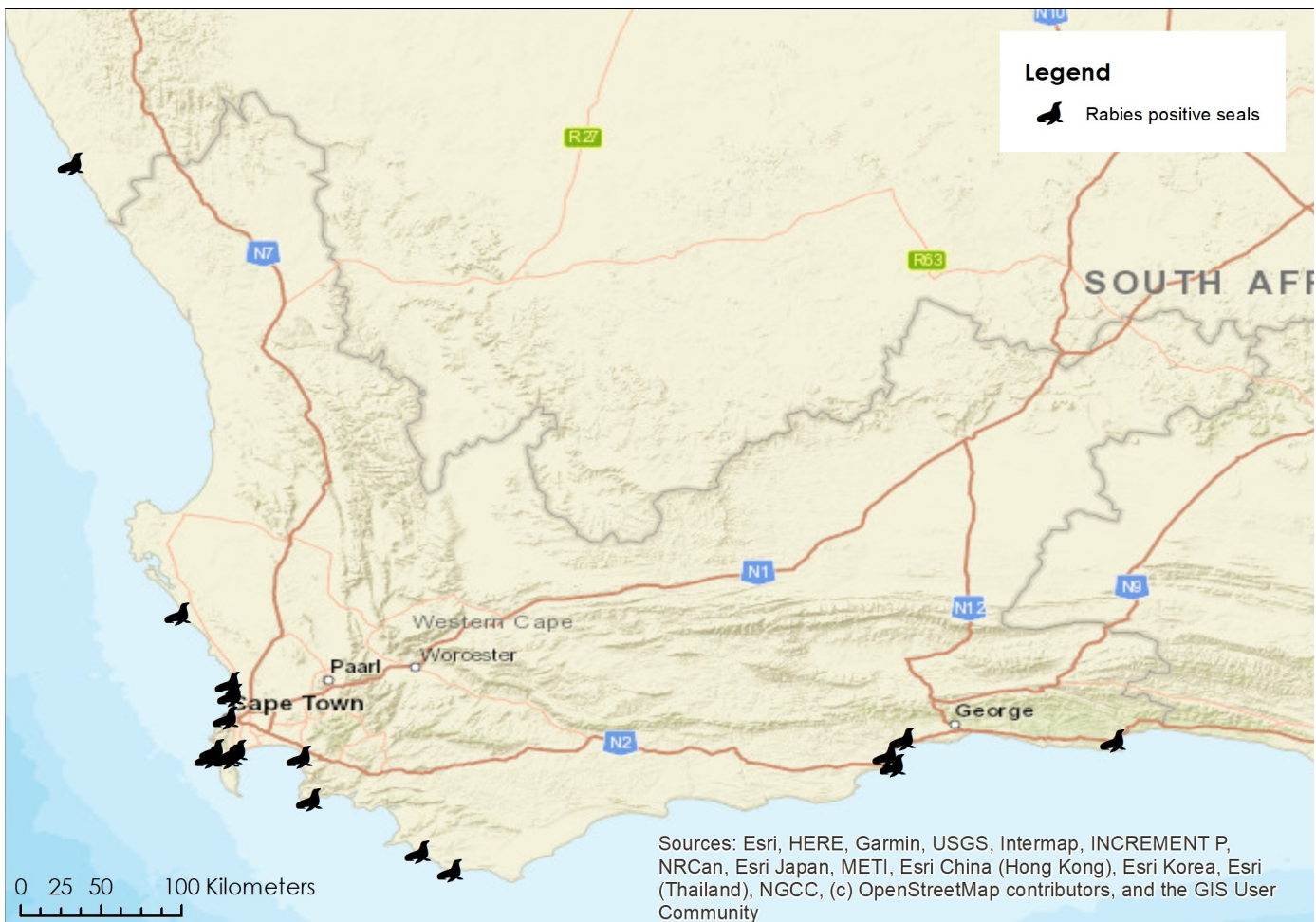


Figure 1: Locations in South Africa where rabies positive seals were detected as of 31 August 2024



Figure 2: A rabid seal attacking a rope (Photo: D. Coulson)



Figure 3: Repetitive retroflexion of the head and neck in a seal with rabies (Photo: J. Barnard)

virus sequenced from the dog in Cape Town in late May also clusters together with the seal viruses, showing that the dog was infected by a seal.

One of the seal rabies virus sequences did not cluster together with the others, but rather with viruses found in bat-eared foxes in the Western Cape. This seal was found in Plettenberg Bay in early 2024 and was likely to have

been an isolated case, with the seal serving as a dead-end host. However, this conclusion may change if further related sequences are detected.

These results illustrate the possibility that multiple introductions of rabies may occur into a population without the virus necessarily becoming endemic.

Available control strategies aimed at stopping transmission in the seal population are limited. Oral vaccination has been used in other countries to control wildlife rabies, but this requires the target species to pick up and bite into bait blocks containing vaccine. Wild seals are not scavengers by nature, and usually eat only live prey, meaning the use of large-scale bait vaccination will not be effective.

Current rabies management strategies focus on the reduction of risk to species that may come into contact with seals, such as people and their pets who use coastal areas for their work or for recreational purposes.

Coastal areas in the Western Cape have set up networks at a municipal level in order to respond quickly to suspect cases of seal rabies and therefore prevent contact with people and other animals. Some municipalities have put additional measures in place, such as regulating the leashing of dogs in public places.

While the majority of rabies surveillance in seals thus far has taken place along the coast of the Western Cape, we are collaborating with colleagues in other provinces and countries to facilitate surveillance throughout the range of the Cape fur seal population.

Foot-and-mouth disease on our borders

Western Cape Veterinary Services remains vigilant to the threat of foot-and-mouth disease and has put several measures in place to prevent outbreaks in the Western Cape.

Public awareness is an integral part of disease prevention and this is included in daily activities, field visits, farmer education days and media communication. Regular meetings also take place with industry representatives to discuss the situation and keep all stakeholders informed.

Information packs have been produced for animal and/or land owners, auctioneers and livestock transporters, so that all are aware of their responsibilities and the regulations pertaining to them. These are available at <https://www.elsenburg.com/western-cape/infopaks/> and include information about documentation required to accompany transported livestock (Gov. gazette 50977, 26 July 2024) i.e.

- ⇒ Origin/ owner health declaration
- ⇒ Destination/ buyer 28-day isolation declaration

Frequent roadblocks and vehicle checks are done by the Western Cape Mobility Department and Veterinary Services officials participate to ensure that documentation is available and transported animals are not showing any signs of disease.

The responsibilities of animal owners in terms of the Animal Diseases Act (Act 35 of 1984)

Notice: All owners of livestock

InfoPak 1

Outbreak events

Rabies was confirmed in four **Cape fur seals** in July in **Yzerfontein**, **Mossel Bay** and **Plettenberg Bay**. In August, four more cases were detected in **Pearly Beach**, **Hartenbos**, **Cape Town** and **Groot Brakrivier**.

A farmer near **Moorreesburg** witnessed a **bat-eared fox** showing no fear of people and biting a water pipe. He shot the fox and it subsequently tested positive for **rabies**.

A dairy cow on a farm in the **Swellendam** area showed decreased milk production, depression, weakness, excessive salivation, anorexia and vocalisation (Fig. 4) and collapsed the following day. A second cow presented a week later with similar clinical signs, including hindquarter ataxia. Brain samples taken from both **cows** tested positive for **rabies**. Sequencing of one of the rabies viruses showed that it was most closely related to local bat-eared fox rabies. All people exposed to the rabid cattle received post-exposure prophylaxis and dogs, cats and cattle on the farm were vaccinated against rabies in response to the cases.

Two new outbreaks of **African swine fever** occurred near **The Craggs** in areas where small-scale farmers keep livestock together in the same area, with few biosecurity measures in place.

Bovine brucellosis was diagnosed on two neighbouring pieces of land near **Worcester** after an abortion was reported to a private veterinarian. In both areas, several small-scale farmers graze their livestock together. The land has been placed under quarantine and all cattle are being tested. Those that test positive are branded and slaughtered.

Three **ostrich** farms in the **Langkloof** and **Leeu-Gamka** areas were diagnosed with H6 (low pathogenicity) **avian influenza** infections. PCR detected H6 virus on one farm and serology was indicative of H6 on the other two farms. A fourth ostrich farm tested avian influenza seropositive but only one bird was found to be seropositive and no subtype could be determined with follow-up PCR testing or serology.

Two outbreaks of **sheep scab** were detected and treated in the **Caledon** and **Malmesbury** areas.

Salmonella Enteritidis was cultured from routine cloacal swabs taken on a broiler **chicken** farm near **Cape Town**.

Two **lambs** near **Vanrhynsdorp** showed neurological signs, including heads tilting to one side (Fig. 5) and walking in circles. The cause is suspected to be **coenurosis**, caused by the tapeworm larvae migrating in the brain after ingestion of tapeworm eggs. This disease is also known as "draaisiekte" (turning sickness) in Afrikaans.



Figure 4: Rabid cow vocalising when approached (Photo: M. de Wet)



Figure 5: Head tilt in a lamb suspected to be caused by coenurosis (Photo: J. Kotze)

Epidemiology Report edited by State Veterinarians Epidemiology:

Dr Lesley van Helden (Lesley.vanHelden@westerncape.gov.za)

Dr Laura Roberts (Laura.Roberts@westerncape.gov.za)

Previous reports are available at <https://www.elsenburg.com/vetepi>

Disclaimer: This report is published on a monthly basis for the purpose of providing up-to-date information regarding epidemiology of animal diseases in the Western Cape Province. Much of the information is therefore preliminary and should not be cited/utilised for publication